

April 23, 2004

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS  
ON THE  
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME : Princeton Wind Farm Infrastructure  
Improvements  
PROJECT MUNICIPALITY : Princeton  
PROJECT WATERSHED : Nashua  
EOEA NUMBER : 13229  
PROJECT PROPONENT : Princeton Municipal Light Department  
DATE NOTICED IN MONITOR : March 10, 2004

Summary of Findings

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **does not require** the preparation of an Environmental Impact Report (EIR). After review of the Environmental Notification Form (ENF) and comments received, I find that the potential environmental impacts of the project have received adequate study under MEPA, and that the potential environmental impacts of the project do not warrant further MEPA review. I further find that the project, after implementation of the mitigation proposed by the proponent, results in a project that advances the Commonwealth's management goals for protected parklands and furthers a number of Commonwealth objectives related to air quality and sustainable development.

Project Description

As described in the ENF, the project consists of the redevelopment of an existing wind farm on a 16-acre inholding parcel owned by the proponent and surrounded by the Wachusett

Mountain State Reservation (WMSR), owned and managed by the Massachusetts Department of Conservation and Recreation (DCR). The existing wind farm produced electricity continually from 1984 to November 2003, and consists of eight wind turbine generators (WTGs) with a total installed capacity of 330 kilowatts. All eight lattice towers and seven of the nacelles are still standing. The proponent intends to replace the existing WTG array with two larger WTGs on monopole towers with an installed capacity of up to 3.2 megawatts.

The proponent historically and currently relies on an existing gravel road (Stage Coach Trail) southeast of the project site over WMSR land for access to its site, although the proponent lacks a formal easement from DCR for use of the road. The proponent has an existing easement for access over WMSR land to the west of the project site, but this site access has never been developed. As part of this project, the proponent proposes to formalize its existing access to the southeast through acquisition of an easement over Stage Coach Trail; extinguish its easement to the west; and cede ownership and control over a 5-acre portion of its inholding parcel to DCR, thereby increasing the size of WMSR.

#### MEPA Thresholds and Jurisdiction

The project is undergoing review pursuant to Section 11.03 (1)(b)3. and (1)(b)5. of the MEPA regulations. The project (specifically the granting of an easement by DCR to formalize the existing access) results in conversion of land held for natural resources purposes in accordance with Article 97 of the Massachusetts Constitution to a purpose not in accordance with Article 97, as well as release of an interest in land held for conservation purposes. The proponent has also asked for a revocable license<sup>1</sup> from DCR to formalize site access pending consideration of the request for a permanent easement. The project will require approval from the Massachusetts General Court for the proposed conversion of Article 97 land<sup>2</sup>. The project will not require review by the Massachusetts Energy Facilities Siting Board.

The project is receiving financial assistance from the Commonwealth for the project in the form of a loan from the Massachusetts Technology Collaborative. Because the proponent is

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<sup>1</sup> The issuance by DCR of revocable license does not meet or exceed any MEPA filing thresholds, although issuance of a revocable license constitutes an Agency Action for purposes of MEPA review.

<sup>2</sup> Approval from the General Court does not constitute Agency Action for purposes of MEPA review.

receiving financial assistance from the Commonwealth for the project (and because of the broad subject matter of the DCR actions<sup>3</sup>), MEPA jurisdiction extends to all aspects of the project that may cause significant Damage to the Environment as defined in the MEPA statute.

#### Standard and Purpose of MEPA Review

The Princeton wind farm is the first community-scale wind project to come before MEPA<sup>4</sup>. It is also the first wind farm in Massachusetts to require a formal easement over state parkland<sup>5</sup>, and as such requires me to balance the need for protection of open space, development of renewable energy, and promotion of sustainable economic development. I realize that my decision in this case will help set the tone for development of future small-scale wind projects in Massachusetts. However, today's decision, like every decision under MEPA, is grounded in the facts of the specific project under review should not be read to imply a blanket decision on all community-scale wind projects subject to MEPA review.

Upon review of an ENF, I must make a determination of whether the potential impacts of a project warrant further MEPA review in the form of an EIR. In the case currently before me, I have balanced the clear and urgent need for development of renewable energy in the Commonwealth, against the potential for impacts on wildlife and the alteration of the appearance of Mount Wachusett and its surroundings. Upon review of the record in this case, I find that the potential environmental impacts of the project have been adequately described for purposes of MEPA review, and that the potential impacts do not warrant preparation

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3 Under Section 11.03 of the MEPA regulations, the Article 97 conversion confers full scope MEPA jurisdiction over those aspects of the project within the area of the Article 97 conversion. DCR review includes consideration of impacts beyond the area of the easement, thereby further extending state agency jurisdiction over those aspects of the project beyond the area of the Article 97 conversion to encompass an assessment of the wider project.

4 The original Princeton Wind Farm did not undergo MEPA review. The Town of Hull municipal light department has also developed a community-scale wind turbine at the tip of the Hull peninsula. This project did not meet any MEPA review thresholds.

5 Off-shore wind farms require placement of infrastructure on and over submerged lands owned by the Commonwealth and held in trust for the benefit of the people of Massachusetts. However, such public trust lands are not afforded status and protection as parkland under Article 97 of the Massachusetts Constitution. M.G.L. Chapter 91 and its implementing regulations govern occupation of and compensation for use of public trust lands. The acquisition of rights in public trust lands is governed by a set of requirements more technically detailed than the requirements governing conversion of Article 97 land. The requirement for explicit approval by a supermajority of both houses of the legislature prior to allowance of an Article 97 conversion reflects the higher status afforded Article 97 lands. The need to satisfy the technical and regulatory complexity of the Chapter 91 process (despite the absence of a need for an explicit project-specific legislative approval) is a primary though not exclusive reason why, to date, all of the proposed off-shore wind farms have been subject to a discretionary EIR requirement; whereas, to date, none of the land-based wind farms have been subject to discretionary EIR requirements.

of an EIR<sup>6</sup>. I further find that the project as designed has positive impacts both to the state reservation surrounding the project site and to air quality. The proponent has avoided and minimized the potential negative impacts of the project to the greatest extent feasible. The proponent has committed to appropriate mitigation for unavoidable impacts, and I anticipate that the DCR disposition process will lead to further refinement of the mitigation commitments. The project may thus proceed to the state permitting agencies. The MEPA review of the project is concluded.

### Renewable Energy and Public Policy

As I have noted in previous decisions, the high ridges and mountains of western and central Massachusetts, as well as large areas on and near the coast, have the potential to support significant development of wind resources. Wind energy represents an indigenous source of virtually emissions-free power. However, as with all other power sources, wind power has potential drawbacks. Potential impacts to wildlife must remain a consideration, as does the highly visible nature of wind turbines (modern wind turbines are large and the best wind fields are often in the most visible and scenic of places). The placement of wind turbines in ecologically sensitive areas can also raise concerns with site-specific construction and operational impacts (for example, to the ecology of surrounding forests in mountainous locations, or to benthic communities in off-shore locations).

Despite the potential drawbacks with wind power, I have stated repeatedly (see EOEa #12532, #12992-96, #13143, and #13176) that I strongly support the development of renewable energy in the Commonwealth, and I reiterate that strong support here. I firmly believe that an ambitious program of renewable energy development is in the interests of the citizens of Massachusetts, and that the Commonwealth has an obligation to its citizens to promote development of renewable energy. For the foreseeable future, wind power is by far the most promising renewable energy technology for Massachusetts<sup>7</sup>.

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<sup>6</sup> I note with approval that the proponent has followed the general advice that I gave in the Hoosac Wind Farm decision for proponents of wind farm projects to submit as much supplemental information as feasible at the ENF stage. In that decision, I recommended that proponents of on-shore wind farms essentially file an Expanded ENF, even if the proponents were not seeking any procedural relief associated with the Expanded ENF filing.

<sup>7</sup> Landfill gas reclamation can and should also play a role in the renewable energy supply, although the potential capacity of this resource is limited and combustion of landfill gas has similar environmental impacts as combustion of natural gas, to which it is chemically virtually identical. I tend to view landfill gas combustion more as a mitigation measure for landfill development (to reduce pollution from and greenhouse potency of landfills) than a primary strategy for meeting renewable energy goals.

At a global and national level, the potential for climate change, global climate disruption, and rapid sea level rise create an urgent need for sustainable alternatives to hydrocarbon combustion. At a regional level, development of a indigenous renewable energy market will help diversify New England's energy mix<sup>8</sup>, improve regional air quality, and create a hedge against price fluctuations in gas and oil prices.

At a state level, the project advances a number of important state goals and policies. Development of renewable energy will set Massachusetts in a leadership role in an emerging market and will help Massachusetts meet its commitments for reduction of greenhouse gases made in the Climate Change Action Plan and Resolution 27-7 of the Annual Conference of New England Governors and Eastern Canadian Premiers (Québec, August 2002)<sup>9</sup>. The Commonwealth has adopted air quality goals to reduce emissions of greenhouse gases to 1990 levels by 2010; to reduce greenhouse gas emissions to 10% below 1990 levels by 2015; and ultimately to reduce greenhouse gas emissions by 75%-85% to achieve sustainability and climate stability. The Princeton wind farm also represents an excellent opportunity to combine economic growth with environmental protection and encourage redevelopment of existing sites, goals that find expression as Commonwealth policy in Executive Order 385 (Planning for Growth). The project also directly advances two key goals of the Sustainable Development Principles (increasing the supply of renewable energy and fostering sustainable business) recently adopted by the Commonwealth's Office of Commonwealth Development.

At a local level, the project is anticipated to meet about 40% of the average total energy demand in the Town of Princeton. The project has received the support of a large majority (74%) of town residents at Special Town Election in 2003, and the Princeton Board of Selectmen have commented in unanimous support of the project. I commend the people of Princeton and their elected representatives for their progressive and continued commitment to renewable energy and energy independence, and for their active support and pursuit of a project that I hope will serve as a model for communities throughout the Commonwealth.

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<sup>8</sup> Natural gas contributed to 4% of electrical production in New England in 1993. By 2000, that figure had increased to 20%, and by 2005 the Massachusetts Division of Energy Resources projects that New England will rely on natural gas for 37% of its electrical generation.

<sup>9</sup> Renewable energy development is also necessary to ensure compliance with the Commonwealth's legally mandated renewable energy portfolio standards (M.G.L. ch. 25A s. 11F and 225 CMR 14.00), although the electricity from the Princeton project, because it is generated by a municipal light department, is unlikely to qualify towards meeting those targets.

Data Collection Standards for Proposed Renewable Energy Projects

The issuance of my December 2003 Certificate on the Hoosac Wind Farm locally intensified what was already a vigorous and ongoing national debate among state and federal environmental and resource management agencies, wind farm proponents and industry representatives, private conservation groups, public health officials, and members of the general public concerning the appropriate level of environmental review and data collection for wind power projects, particularly relating to potential impacts on avian species and forest communities. The debate has raised basic issues about the content and conduct of the environmental review process. Given the importance of this debate to the further development of the renewable energy industry, and indeed more broadly to the credibility of the environmental review process itself, I believe it is appropriate to lay out my general approach to MEPA reviews of wind power projects, with a specific emphasis on the current project.

The MEPA process is designed to ensure that state agencies make environmentally informed decisions on permits, land transfers, and/or financial commitments on projects that may have environmental impacts; and that the public has input into the decision making process. MEPA requires that state agencies understand the environmental consequences of their actions, and that project proponents design a project so as to avoid, minimize, or mitigate environmental impacts to the maximum extent feasible. In my capacity as Secretary, I have the discretion, within the limits imposed by the MEPA statute and its regulations, to determine what level and depth of analysis is appropriate for projects undergoing MEPA review. I must ensure that projects before me meet the high standards imposed by MEPA, while ensuring that the level of analysis remains commensurate with the potential impacts of a project.

One of the most controversial aspects of wind power development in Massachusetts has concerned the level of analysis that is appropriate for wind power projects. For every wind power project I have reviewed under MEPA (regardless of the number of turbines), I have received significant comment recommending preparation of an EIR, with calls for extensive analysis of alternatives and multi-year pre-construction studies of potential impacts on wildlife. Every review of a wind power project has also brought calls for a moratorium on wind power development in Massachusetts until such time as detailed statewide analysis of impacts is undertaken and/or until the state develops universal policies and standards to guide location

and development of wind power projects. Under MEPA, I lack the authority to impose a moratorium on wind power or any other form of development. I must legally review every ENF that comes before me on a case-by-case (i.e., "ad hoc") basis, and issue a determination within a tightly prescribed timeframe.

I have also received repeated calls for a state planning effort or programmatic EIR for wind power in Massachusetts, either with or without a moratorium on development. In general, the Commonwealth has made a policy decision (see Chapter 164 of the Acts of 1997) to rely on a decentralized, market-based approach to determine the location and size of energy infrastructure facilities, rather than on centralized planning or directives from the state government. While an extensive statewide planning effort related to wind power in general would therefore be too broad, a more focused study could ultimately prove useful. For example, it would be appropriate (indeed necessary) for the Commonwealth to develop general standards and policies regarding development of wind energy infrastructure on protected open space<sup>10</sup> prior to undertaking a systematic program of development of WTG arrays on state-owned protected open space. Toward that end, I have directed my policy staff to work with EOEAs' land holding agencies and stakeholders to develop a general guidance document advances the Commonwealth's Renewable Portfolio Standard goals while upholding the underlying purpose and integrity of constitutionally protected open space.

The review of the ENF has generated several comments requesting an extensive study of alternative locations for the proponent's proposed wind farm. There are undoubtedly several viable sites within Princeton alone that could support a viable wind farm project (one comment letter mentions at least 15 other sites), although some of these sites may not have the wind resources of the proponent's location<sup>11</sup>. However, the mere presence of potentially feasible alternatives does not necessitate the detailed study of these alternatives under MEPA. Again, I must render a decision based on the specifics of the project, after due consideration of the likelihood of significant<sup>12</sup> environmental impacts from a proposed project and need to balance sometimes competing interests. The level of alternatives analysis must be commensurate with the potential

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10 As differentiated from development on inholdings requiring access over state-owned protected open space, such as the Princeton wind farm.

11 The energy available from wind is a function of the cube of the wind speed, so even small differences in average wind speed between or among sites can have a large effect on relative energy output.

12 It is worth noting that the MEPA statute explicitly prohibits requiring extensive study of impacts that are determined to be insignificant.

impacts of the project. As discussed elsewhere in this Certificate, the level of potential impact from this project is low. I am therefore exercising my discretion to determine that the alternatives analysis for the Princeton wind farm need not venture beyond the analysis conducted in the ENF.

The review of the Princeton wind farm has also generated requests for multi-year pre-construction studies of impacts to avian populations (birds, bats, and insects). In consideration with comment letters on other wind farm projects, there clearly exists a significant constituency in favor of such studies for all wind power projects in Massachusetts. After careful consideration of these comments, I reject the suggestion that a blanket requirement for multi-year pre-construction studies (including the Princeton site) is necessary or appropriate.

I have reviewed the existing literature on avian risk from wind power nationwide and regional data and experience with the Searsburg, Vermont wind farm, and I am generally satisfied that with few exceptions, risks from wind turbines have proven very minimal. I recognize that additional study is required to make a conclusive determination on avian impacts<sup>13</sup>. However, institution of a blanket requirement for proponents of moderately- or small-sized wind power projects to conduct multi-year studies will either render economically infeasible, or at a minimum result in significant delays to, projects that have demonstrated environmental benefits (including indirect benefits on the very avian species of concern in the comments), and present little potential for significant direct risk to avian populations.

The imposition of such blanket requirements would risk mandating a level of study and analysis that is disproportionate to the size of the projects proposed to date, and to the likely impacts of those projects. The MEPA reviews conducted to date on wind energy projects within Massachusetts provide little support for the contention that such extensive data collection requirements are warranted. Such requirements, if implemented, would effectively subject wind power projects to a much higher standard of review than has ever been imposed on other types of development, including developments such as tall downtown office towers (or for that matter suburban subdivisions) that are known to pose much more significant cumulative risks to avian populations.

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13 My Certificate on the Hoosac Wind Project demonstrated my commitment to furthering the scientific understanding of the issue through development of a post-construction monitoring effort at that project site.

I remain committed to ensuring that Massachusetts implements its stated and binding policy commitments to renewable energy. At the same time, I will ensure that all renewable energy projects subject to MEPA are held to an appropriately high standard and that proponents of wind power development take all feasible measures to avoid, minimize, and mitigate impacts from their projects. I will further ensure that both the impacts and benefits of wind power receive adequate study in Massachusetts. However, absent site-specific evidence of reasonably foreseeable significant impact to avian populations and/or other resources, I do not see the need for extensive pre-construction studies of every proposed wind farm. Imposition of such requirements through MEPA would effectively amount to a moratorium on wind power development, which as discussed elsewhere would run directly counter to my statutory and regulatory authority under MEPA.

### Alternatives

As mentioned above, I have determined that the proponent need not include detailed analysis of alternative sites for the project. Particularly in light of the fact that the Princeton wind farm is a redevelopment project, I accept that the proponent's preferred location generally minimizes impacts and that the potential impacts from the project do not rise to the level that would make preparation of an EIR appropriate. It is possible that other sites within Princeton may be proposed for future wind farms. I will review wind farms on other sites when and if projects on other sites meet applicable MEPA filing thresholds.

The ENF includes an analysis of alternative locations for the access road. Based on the analysis, it is clear that the preferred alternative of formalizing the use of an already existing access road over the as-of-right development of a new road is environmentally preferable. Development of a new road would have significantly greater impacts on vegetation, stormwater quality, and wetlands.

The selection of 1.5 or 1.6 megawatt wind turbines and the proposed height and alignment of the turbines is appropriate given the scope and purpose of the project. Lower turbines would not exploit the wind resource present as efficiently, and would thus reduce the air quality and energy benefits associated with the project. Upon review of the ENF, I find that further evaluation of alternative turbine heights, locations, or

configurations is not warranted under MEPA, nor is evaluation of any reduced build scenarios.

Article 97/ Protected Open Space

The project requires the conversion of 0.84 acres of Article 97 land in the form of a permanent easement to formalize the existing access to the site, and an additional conversion of 0.05 acres for an easement related to overhead electrical utility lines. DCR would retain control and ownership of the road, and would develop reasonable access restrictions with the proponent to minimize impacts to recreation. The proponent and DCR have developed an extensive set of mitigation commitments to compensate for the conversion, including but not necessarily limited to:

- Extinguishing its existing easement over a 0.83 acre right-of-way on DCR property west of the project site;
- Transfer of 5.00 acres of its inholding parcel to DCR (including a 540 linear foot segment of the Midstate Trail)
- Trailhead improvements in the form of development of a parking area for six to eight vehicles on DCR land at the intersection of Stage Coach Trail and Westminster Road;
- Repair of the existing culverts on Stage Coach Trail and maintenance of the road;
- Posting of appropriate signage around the wind farm site;
- Design and installation of underground electrical service to the new WMSR Mountain Road visitor center;
- Continued provision of corrective and preventative maintenance to DCR of the overhead electric service to the summit of Mount Wachusett until such time as the electric service is placed underground;
- Design assistance to DCR for proposed new underground electric service to the summit area;
- Construction of new underground electric service to the summit area;
- Installation of a renewable energy education kiosk at a visitor center at WMSR;
- Installation of static displays and interpretive materials on Stage Coach Trail and on the summit about renewable energy;
- Installation of a 300-watt functional solar energy demonstration system at a visitor's center at WMSR;
- Continued support of nature hikes and other activities at

WMSR to enhance education on renewable energy;

- 3:1 replacement of trees (with natives species of a caliper approved by DCR) removed for access road work; and
- Appropriate seasonal restrictions on access road work to minimize impacts on recreation.

Both the EOEa Division of Conservation Services and the Department of Conservation and Recreation have commented that the proposed Article 97 mitigation is appropriate. The DCR letter includes additional details on the mitigation package that the agency will address with the proponent in the permitting process. I find that with the mitigation in place, the project is consistent with the goals of the EOEa Article 97 Land Disposition Policy. The overriding goal of this policy is to ensure "no net loss of Article 97 Lands under the ownership of the Commonwealth and its political subdivisions." In this case, the project results in more than a 5:1 replacement ratio of parkland, in addition to the operational and educational benefits described above.

The EOEa Article 97 Land Disposition Policy includes a requirement for evaluation of alternatives, again with the goal of avoiding use of Article 97 lands to the extent feasible. In this case, the nature of the proponent's land as an inholding parcel will necessitate use of Article 97 lands regardless of what access is developed or formalized. The proponent could develop its existing easement over Article 97 lands as-of-right (and could have avoided the MEPA filing altogether if it had chosen to do so). However, this would lead to development of two access roads as opposed to one (with all of the attendant environmental impacts associated with an additional road). Furthermore, the proponent's existing access is on a much steeper slope (therefore more prone to erosion) and would directly impact a wetland resource area as well.

The proposed access road work on Stage Coach Trail would require removal of vegetation within the Biodiversity Significance Overlay Zone established in DCR's Resource Management and Protection Plan (RMPP) for WMSR. I direct DCR to ensure that the vegetation clearing is held to the minimum necessary to accommodate the wind farm, and that vegetation removal is consistent to the maximum extent feasible with the RMPP.

I find that development of the Princeton wind farm is compatible with the surrounding WMSR. The Princeton wind farm

project demonstrates that renewable energy development and successful stewardship of state parkland can be complementary goals. On balance, formalizing the use of the existing road will minimize new impacts, and the benefits proposed to offset the Article 97 conversion are substantial. The project as proposed is consistent with EOEa policy and advances the state stewardship of WMSR.

### Wildlife/Avian

In almost twenty years of operation, there have apparently been no recorded instances of bird or bat strikes at the existing wind farm. The proposed project will reduce the number of turbines and the rotation rate of the turbines, and will result in the replacement of lattice towers with tubular monopoles, all of which will lower risks to avian populations. On the other hand, the total rotor swept area (which varies with the square of the blade radius) and height to the tip of the rotor swept area will increase significantly with the new turbines, which could potentially increase risks to avian populations. On balance, I am comfortable that the new wind farm is likely to present low risks to avian populations, and that the risks are generally comparable to risks posed by the existing wind farm. I have addressed potential impacts on avian populations above, and find that more detailed site-specific analysis is unnecessary in this case. The proponent has committed to a voluntary post-construction monitoring program for impacts to avian populations. This voluntary commitment is independent of the MEPA review of the project, and I see no need for formalizing a post-construction monitoring program in this case<sup>14</sup>. DCR has requested that the proponent consult with DCR on the study methodology. I also offer the informal assistance of the EOEa policy staff and MEPA Office.

The ENF includes a written determination from the Massachusetts Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program that the project site does not contain any known populations of rare or endangered species.

### Visual/Aesthetic

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<sup>14</sup> I remind reviewers that the Hoosac post-construction monitoring program is also independent of the MEPA review of that project, and represents taking advantage of an opportunity for scientific study rather than a formal requirement of a permitting process based on anticipated impacts. The post-construction monitoring at the Hoosac site was not intended to provide a precedent for future studies at other sites, such as the Princeton wind farm.

Among members of the general public, visual and aesthetic issues are often the most controversial aspects of wind power development projects. By their nature modern wind turbines are large structures typically placed in highly visible locations such as in shallow offshore waters, along the coast, or in the mountains.

The perception of visual impacts is "in the eye of the beholder," and I have received a diverse set of comments concerning visual impacts reflecting this inherent subjectivity. I have received comments raising concerns with negative visual impacts on the surrounding state reservation and other areas, and objections to the "industrialization" of the appearance of Mount Wachusett. On the other hand, I have also received comments from those who find wind turbines elegant additions to the landscape, and view them as entirely compatible with the surrounding state reservation. Still others perceive visual impacts but consider these impacts as part of a necessary trade-off for air quality and energy benefits, and several have noted that the visibility of wind turbines will help raise public awareness of societal decisions about energy production and consumption. Not surprisingly, comments on whether the project produces negative visual impacts appear closely correlated with the author's opposition to the project, while lack of perceived negative visual impacts appears correlated with support of the project.

Resolution of the debate on whether the Princeton wind farm produces positive or negative visual impacts lies well beyond the scope of MEPA. In general, I will ensure that the proponent of any wind project has made accurate and representative simulations of the visual appearance of the turbines, and allow members of the public to draw their own aesthetic conclusions based on those simulations. The proponent of the Princeton Wind Farm has produced such appropriate visual simulations. Further analysis of the issue under MEPA is not warranted.

### Lighting

The lighting requirements will need to balance visual concerns and potential impacts on birds and bats (some of which may be attracted to certain types of lighting) with the need to ensure the safety of the structures, particular with respect to aviation. The Federal Aviation Administration (FAA) has determined that the project would not constitute a hazard to aviation, provided that the proponent lights both turbines with medium-intensity red obstruction lights. The proponent will use a lighting scheme with the longest allowable off cycle, and will

synchronize lights to flash simultaneously. This lighting plan is consistent with the plan developed for the Hoosac Wind Project, and generally strikes an appropriate balance among safety, environmental, and aesthetic concerns.

### Noise

The Commonwealth does not formally regulate noise emissions, although the Department of Environmental Protection (DEP) has adopted a noise policy that aims to limit sources of noise at adjacent property lines to below 10 dB above ambient levels, and to prevent the generation of puretone conditions. DEP has indicated that it has no concerns with any aspect of the proposed project, including potential noise impacts. DCR has similarly not raised any concerns with potential noise impacts from the project on WMSR. Modern wind turbines are generally considerably quieter than earlier models, in part because of mechanical improvements and a slower rotation rate. Since the project involves the replacement of older turbines with modern turbine technology, and a reduction in number of turbines from eight to two, the project should lead to a net reduction in total noise compared to the existing condition. Neither the existing nor proposed conditions would likely result in generation of puretone conditions.

### Educational Opportunities

The project represents a significant opportunity for public education, and based on the experiences at the existing wind farm in Princeton and other operational wind farm sites it is likely that the project will become somewhat of a tourist attraction. The site is and will remain highly accessible due to its location within WMSR. The proponent and DCR have developed a number of measures designed to showcase the project and renewable energy in general. I welcome the efforts to integrate education with the project, and encourage the proponent and DCR to continue maximizing the educational value of the project. DCR has requested that the proponent develop any educational programs in consultation with appropriate DCR staff.

### Public Safety

The ENF includes an evaluation of safety issues, including the potential for ice buildup and ice throw from the turbine blades and towers. I am satisfied that the project presents minimal risk to public safety, and that the proponent has adequately discussed the issue in the ENF. DCR has not indicated

that it considers the location of the turbines to present a hazard to visitors of WMSR. The proponent can resolve any remaining issues regarding appropriate signage and potential operational constraints during the permitting process.

### Decommissioning

The proponent has developed a decommissioning plan for the existing wind farm, although the ENF does not include discussion of a decommissioning plan for the new wind farm. I anticipate that the proponent will address impacts from decommissioning of the new wind farm as part of its agreements with DCR. I ask that the DCR review include analysis of the potential disturbances to vegetation that may reestablish itself along the access road during the design life of the project. (The construction process will necessitate the removal of several trees currently growing within the right-of-way of the existing road to accommodate construction vehicles and equipment.)

### Mitigation

The project itself will produce significant air quality benefits for the Commonwealth. Using the most recent (2001) NEPOOL marginal emissions rate, the project will produce annual offsets of 11,300,000 pounds of carbon dioxide, 13,850 pounds of nitrogen oxides, and 39,920 pounds of sulfur dioxide. (The ENF includes estimates derived from EPA methodology that the project will result in annual emissions offsets of 10,500,000 pounds of carbon dioxide, 16,300 pounds of nitrogen oxides, and 45,600 pounds of sulfur dioxide.)

Nonetheless, despite the presence of positive impacts, the proponent is required to avoid or minimize negative impacts to the greatest feasible extent, and to mitigate any unavoidable impacts. As discussed above the project design generally avoids or minimizes impacts, and the proponent has included substantial mitigation for unavoidable impacts, particularly with respect to Article 97 lands.

### Conclusion

Based on the review of the ENF and comments received, as well as review of other recent reviews of similar projects, I find that the impacts of the project have received adequate study under MEPA and that preparation of an EIR is not warranted. The proponent can resolve any remaining issues during the Article 97 review process with DCR. The MEPA review of the project is

concluded.

April 23, 2004

Date

Ellen Roy Herzfelder

Comments received (continues on following pages):

03/11/04 Division of Conservation Services (e-mail)  
03/12/04 Department of Environmental Protection CERO (e-mail)  
03/24/04 Town of Princeton Board of Selectmen  
03/26/04 David and Jane Morrisson  
03/29/04 Edwin Carlson  
04/01/04 George Hynes et al (petition in support of project)  
04/02/04 Suzy Winterble  
04/06/04 Charlie Winterble  
04/07/04 Eli Valk  
04/12/04 U.S. Interior Department, Fish and Wildlife Service  
04/13/04 Massachusetts Division of Energy resources  
04/14/04 Ramsay Huntley  
04/14/04 David Krashes  
04/14/04 David Nichols  
04/14/04 John DiModica  
04/14/04 Richard Bisk  
04/14/04 Christine Nichols  
04/14/04 F. Paul Richards  
04/14/04 Burton B. Bryan  
04/14/04 Richard Keleher  
04/14/04 Christopher Granda  
04/14/04 Tom Lincoln  
04/15/04 Stephen Prescott  
04/15/04 Michael Jacobs  
04/15/04 Steve Silberberg  
04/15/04 Brett Feldman  
04/15/04 Ricky Stern  
04/15/04 Richard Lawrence  
04/15/04 Rod Funston  
04/15/04 Sonia DeMarta  
04/15/04 Harold Swanson  
04/15/04 John Anderson  
04/15/04 Northeast Sustainable Energy Association (Nancy Hazard)  
Comments received (continued from previous page):

04/15/04 Steve and Lisa Reynolds  
04/15/04 Rick Smyers  
04/15/04 Bruce Luchner  
04/15/04 Constance Gagnon  
04/15/04 Robert Scott  
04/15/04 Kathleen and Marion Reine  
04/15/04 Philip Knowles  
04/15/04 Ira Krepchin  
04/15/04 Kitty Beer  
04/15/04 Richard Kates  
04/15/04 Amelia Ravin  
04/15/04 Meg Wilcox  
04/15/04 Clean Power Now (Charles Kleekamp)  
04/15/04 Don Hayward  
04/15/04 Robert Dow  
04/15/04 James Liedell  
04/15/04 U.S. Department of Energy  
04/16/04 Eleanor Tillinghast  
04/16/04 Lori Segall  
04/16/04 Clean Water Action (Jed Thorp)  
04/16/04 Eleanor MacLellan  
04/16/04 Conservation Law Foundation (Toni Hicks)  
04/16/04 Mary Smith  
04/16/04 Susan Boni  
04/16/04 MASSPIRG (Frank Gorke)  
04/16/04 Kumar Nochur  
04/16/04 HealthLink (Gail McCormick)  
04/16/04 Edward McIntyre  
04/16/04 Appalachian Mountain Club (Susan Arnold)  
04/16/04 Doug Sacra  
04/16/04 Wachusett Mountain Advisory Council (Thomas Sullivan)  
04/16/04 Watchdogs for an Environmentally Safe Town (Donna and Gordon Brownell)  
04/16/04 Jody Howard  
04/16/04 MassAudubon (Heidi Ricci)  
04/16/04 Massachusetts Historical Commission  
04/16/04 Wachusett Mountain Associates (Timothy McGuire)  
04/16/04 Patricia Gozemba  
04/16/04 John Anderson  
04/16/04 Department of Conservation and Recreation  
04/16/04 Sierra Club (James McCaffrey)  
04/20/04 Thomas Lynch  
04/21/04 Center for Ecological Technology  
04/21/04 Cape Wind (Jim Gordon)  
04/21/04 Richard and Carmen Bartlett  
Comments received (continued from previous page):

04/21/04 Mass Energy Consumers Alliance  
04/21/04 Susan Manero (Princeton Representative, WMAC)  
04/22/04 Paul Roberts  
04/22/04 John Mollica (addendum)  
04/22/04 Carrie Dolmat-Connell  
04/16/04 John Mollica\*  
04/16/04 John Bomba\*

various postcards in support of project  
dates

\*these comments were considered as part of the MEPA review but  
were inadvertently omitted from the original comment list

ERH/ASP/asp